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10/748,008

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Luc Van Brabant

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EXAMINER

WANG, HARRIS C

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/748,008	<b>Applicant(s)</b> VAN BRABANT, LUC	
	<b>Examiner</b> HARRIS C. WANG	<b>Art Unit</b> 2139	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

In view of the appeal brief filed on 2/26/2008, PROSECUTION IS HEREBY REOPENED. A new action is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Gilberto Barron Jr/  
Supervisory Patent Examiner, Art Unit 2132.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6-11, 16, 18-19, 22-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Muttik (20030046611).

Regarding Claims 1-2, 16, 18

Muttik teaches a method of operating a plurality of virus checkers for on-demand antivirus scanning concurrent with on-access anti-virus scanning (*"Anti-virus programs may operate in an on-access mode or an on-demand mode. The on-access mode initiates a scan of a file when an access request to that file is made. The on-demand mode initiates a scan of all files on a specified volume or volumes either on a user request or on a scheduled request"* Paragraph [0004]; [0015]), the method comprising:

Combining on-demand anti-virus scan requests and on-access anti-virus scan requests in a virus scan request queue; and (*"In operation the network storage device is subject to regular on-demand scans to identify computer viruses"* Paragraph [0031]) (*"If new files are added to the system during the scan, these are placed in a high position in the queue, so that they are scanned soon."* Paragraph [0037])

Distributing the on-demand anti-virus scan requests and the on-access anti-virus scan requests from the virus scan request queue to the virus checkers. (*Fig 4 shows the flow diagram showing "initiation of a scan, either by user request or a preset condition being fulfilled. This file is then scanned and data identifying the file has been scanned"* Paragraph [0040])

The Examiner interprets as new files being added to the system as a scan request produced in response to user access to files, therefore the Examiner interprets new files being added to the system as initiating "on-access virus scans."

Muttik inherently teaches at least one processor coupled to the virus checkers for sending scan requests, placing them in a scan queue and distributing the requests to the virus checkers.

Regarding Claim 3, 10, 19

Muttik teaches the method as claimed in claims 1 and 8, and system as claimed in Claim 16, wherein the on-demand anti-virus scan requests are produced in response to a system administrator requesting a scan of files within a specified file system. (*"The on-demand mode initiates a scan of all files on a specified volume or volumes either on a user request or on a scheduled request" Paragraph [0004]*) (*"In operation the network storage device is subject to regular on-demand scans" Paragraph [0031]*) Because the "user" controls the scans for the network, the Examiner interprets the "system administrator" in the claimed language as the user in Muttik.

Regarding Claim 6, 22

Muttik teaches the method of claim 1 and system of 16, which includes the grouping the on-demand anti-virus scan requests into chunks, each of the chunks including multiple ones of the on-demand anti-virus scan requests, and placing the chunks onto the virus scan request queue. (*Figure 3 shows multiple files scan files (N , N+1, N+2, N+3). The Examiner interprets these files to be scanned as on-demand anti-virus scan requests grouped into "chunks."* Also see Paragraph [0031]) Muttik teaches "grouping the on-demand anti-

virus scans into chunks" as taught by Paragraph [0037] where the new file added to the queue in N+1 or N+2 splits the on-demand anti-virus scans into chunks.

Regarding Claim 7, 23

Muttik teaches the method as claimed in claim 6 and system of 16, which includes inhibiting the placement of at least one of the chunks onto the virus scan request queue until completion of anti-virus scanning for the anti-virus scan requests in a prior one of the chunks. (Paragraph [0037] describes inhibiting the on-demand scan's placement in the queue by first scanning files as a result of an access to a file)

Regarding Claims 8-9,

Muttik teaches a method of operating a plurality of virus checkers for on-demand antivirus scanning concurrent with on-access anti-virus scanning (*"Anti-virus programs may operate in an on-access mode or an on-demand mode. The on-access mode initiates a scan of a file when an access request to that file is made. The on-demand mode initiates a scan of all files on a specified volume or volumes either on a user request or on a scheduled request"* Paragraph [0004]), the method comprising:

Combining on-demand anti-virus scan requests and on-access anti-virus scan requests in a virus scan request queue; and (*"In operation the network storage device is subject to regular on-demand scans to identify computer viruses" Paragraph [0031]*) (*"If new files are added to the system during the scan, these are placed in a high position in the queue, so that they are scanned soon."* Paragraph [0037])

Distributing the on-demand anti-virus scan requests and the on-access anti-virus scan requests from the virus scan request queue to the virus checkers. (*Fig 4 shows the flow diagram showing "initiation of a scan, either by user request or a preset condition being*

*fulfilled. This file is then scanned and data identifying the file has been scanned” Paragraph [0040])*

Grouping the on-demand anti-virus scan requests into chunks, each of the chunks including multiple ones of the on-demand anti-virus scan requests, and placing the chunks onto the virus scan request queue. *(Figure 3 shows multiple files scan files (N, N+1, N+2, N+3). The Examiner interprets these files to be scanned as on-demand anti-virus scan requests grouped into “chunks.” Also see Paragraph [0031])* Muttik teaches “grouping the on-demand anti-virus scans into chunks” as taught by Paragraph [0037] where the new file added to the queue in N+1 or N+2 splits the on-demand anti-virus scans into chunks.

The Examiner interprets as new files being added to the system as a scan request produced in response to user access to files, therefore the Examiner interprets new files being added to the system as initiating “on-access virus scans.”

Muttik inherently teaches at least one processor coupled to the virus checkers for sending scan requests, placing them in a scan queue and distributing the requests to the virus checkers.

Regarding Claim 11,

Muttik teaches the method as claimed in claim 8, which includes inhibiting the placement of at least one of the chunks onto the virus scan request queue until completion of anti-virus scanning for the anti-virus scan requests in a prior one of the chunks. (Paragraph [0037] describes inhibiting the on-demand scan's placement in the queue by first scanning files as a result of an access to a file)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5, 12-15, 20-21, 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muttik in view of Edwards.

Regarding Claim 4, 20

Muttik teaches the method as claimed in claim 1.

Muttik does not explicitly teach wherein a pool of threads distribute the on-demand anti-virus scan requests and the on-access anti-virus scan requests from the virus scan request queue to the virus checkers, each anti-virus scan request on the virus scan request queue being serviced by a respective one of the threads in the pool of threads. Edwards teaches a pool of threads that distribute scan requests from the virus scan queue to virus checkers, each anti-virus scan request on the virus scan request queue being serviced by a respective one of the threads in the pool of threads. (*"A virus scanner is provided in which a pool of pre-processor threads and a queue are interposed between the event filter and the pool of scanner threads...the scan request is selected based on the scan request's characteristics as compared to the characteristics of the scan requests whose objects are currently being scanned by other scanner threads in the pool" Abstract*)



It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the on-access and on-demand virus scanning queue of Muttik with a pool of scanning threads.

The references are combinable because they both deal with subject of virus scanning queues. Edwards teaches that the threads “gather characteristics about the scan requests and place them in a queue in a priority order” (Abstract of Edwards). The motivation to combine is to prioritize the virus scanning queue of Muttik.

Regarding Claim 5, 21

Muttik teaches the method of claim 1, wherein the on-access anti-virus scan requests are given priority over the on-demand anti-virus scan requests. (*“If new files are added to the system during the scan, these are placed in a high position in the queue, so that they are scanned soon” Paragraph [0037]*)

While Muttik teaches giving priority to on-access virus scans over on-demand virus scans, Muttik does not explicitly teach that when the number of anti-virus scan requests on the virus scan request queue reaches a threshold, the placement of on-demand virus scan requests are inhibited, while the placement of on-access virus scan requests are not inhibited.

Edwards teaches where certain scan requests are given priority based on certain characteristics by not inhibiting a first kind of scan request while inhibiting the placement of a second kind of scan request based on a second group of characteristics when the number of anti-virus scan requests on the virus scan request queue reaches a threshold (*“a pending scan request from user A may be determined to be more suitable than a pending scan request from user B if three of the four scanner threads are already scanning scan*

*requests from user B. This prevents a single user B from monopolizing the virus scanner (Column 5, lines 66-67, Column 6, lines 1-3)*

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the prioritizing of on-access virus scans over on-demand virus scans in a virus queue, with the method of prioritizing scan requests based on a threshold.

The combination of the on-access on-demand virus scan queue of Muttik with the use of a threshold for determining the priority of virus scan requests based on the characteristics will have the predictable results of prioritizing based on whether the scan type request is on-demand or on-access. The motivation is to prevent the monopolization of the scanner of one type of scan as described in the cited portion of Edwards.

Regarding Claims 12-13, 24-25, 27

Muttik teaches a method of operating a plurality of virus checkers for on-demand antivirus scanning concurrent with on-access anti-virus scanning (*"Anti-virus programs may operate in an on-access mode or an on-demand mode. The on-access mode initiates a scan of a file when an access request to that file is made. The on-demand mode initiates a scan of all files on a specified volume or volumes either on a user request or on a scheduled request"* Paragraph [0004]), the method comprising:

Combining on-demand anti-virus scan requests and on-access anti-virus scan requests in a virus scan request queue; and (*"In operation the network storage device is subject to regular on-demand scans to identify computer viruses"* Paragraph [0031]) (*"If new files are added to the system during the scan, these are placed in a high position in the queue, so that they are scanned soon."* Paragraph [0037])

Distributing the on-demand anti-virus scan requests and the on-access anti-virus scan requests from the virus scan request queue to the virus checkers. *(Fig 4 shows the flow diagram showing "initiation of a scan, either by user request or a preset condition being fulfilled. This file is then scanned and data identifying the file has been scanned" Paragraph [0040])*

Grouping the on-demand anti-virus scan requests into chunks, each of the chunks including multiple ones of the on-demand anti-virus scan requests, and placing the chunks onto the virus scan request queue. *(Figure 3 shows multiple files scan files (N, N+1, N+2, N+3). The Examiner interprets these files to be scanned as on-demand anti-virus scan requests grouped into "chunks." Also see Paragraph [0031])*

The Examiner interprets as new files being added to the system as a scan request produced in response to user access to files, therefore the Examiner interprets new files being added to the system as initiating "on-access virus scans."

Muttik does not explicitly teach wherein a pool of threads distribute the on-demand anti-virus scan requests and the on-access anti-virus scan requests from the virus scan request queue to the virus checkers, each anti-virus scan request on the virus scan request queue being serviced by a respective one of the threads in the pool of threads. Edwards teaches a pool of threads that distribute scan requests from the virus scan queue to virus checkers, each anti-virus scan request on the virus scan request queue being serviced by a respective one of the threads in the pool of threads. *("A virus scanner is provided in which a pool of pre-processor threads and a queue are interposed between the event filter and the pool of scanner threads...the scan request is selected based on the scan*

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*request's characteristics as compared to the characteristics of the scan requests whose objects are currently being scanned by other scanner threads in the pool" Abstract)*

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the on-access and on-demand virus scanning queue of Muttik with a pool of scanning threads.

The references are combinable because they both deal with subject of virus scanning queues. Edwards teaches that the threads "gather characteristics about the scan requests and place them in a queue in a priority order" (Abstract of Edwards). The motivation to combine is to prioritize the virus scanning queue of Muttik.

While Muttik teaches giving priority to on-access virus scans over on-demand virus scans, Muttik does not explicitly teach that when the number of anti-virus scan requests on the virus scan request queue reaches a threshold, the placement of on-demand virus scan requests are inhibited, while the placement of on-access virus scan requests are not inhibited.

Edwards teaches where certain scan requests are given priority based on certain characteristics by not inhibiting a first kind of scan request while inhibiting the placement of a second kind of scan request based on a second group of characteristics when the number of anti-virus scan requests on the virus scan request queue reaches a threshold (*"a pending scan request from user A may be determined to be more suitable than a pending scan request from user B if three of the four scanner threads are already scanning scan requests from user B. This prevents a single user B from monopolizing the virus scanner (Column 5, lines 66-67, Column 6, lines 1-3)*

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the prioritizing of on-access virus scans over on-demand virus scans in a virus queue, with the method of prioritizing scan requests based on a threshold.

The combination of the on-access on-demand virus scan queue of Muttik with the use of a threshold for determining the priority of virus scan requests based on the characteristics will have the predictable results of prioritizing based on whether the scan type request is on-demand or on-access. The motivation is to prevent the monopolization of the scanner of one type of scan as described in the cited portion of Edwards.

Muttik teaches a file server coupled to virus checkers (Paragraph [0030] of Muttik), where the file server includes a virus scan request queue (Paragraph [0015] of Muttik).

Regarding Claim 14, 26

Muttik and Edwards teach the method of Claim 12 and system of Claim 24, wherein the on-demand anti-virus scan requests are produced in response to a system administrator requesting a scan of files within a specified file system. (*"The on-demand mode initiates a scan of all files on a specified volume or volumes either on a user request or on a scheduled request"* Paragraph [0004] of Muttik) (*"In operation the network storage device is subject to regular on-demand scans"* Paragraph [0031] of Muttik) Because the "user" controls the scans for the network, the Examiner interprets the "system administrator" in the claimed language as the user in Muttik.

Regarding Claim 15, 28

Muttik and Edwards teach the method of Claim 12 and system of Claim 24, which includes inhibiting the placement of at least one of the chunks onto the virus scan request queue until completion of anti-virus scanning for the anti-virus scan requests in a prior one of the chunks. (Paragraph [0037] of Muttik describes inhibiting the on-demand scan's placement in the queue by first scanning files as a result of an access to a file)

Regarding Claim 17,

Muttik teaches the system of claim 16. Muttik teaches wherein the virus scan request queue is in a file server. (*"The server includes a network storage device providing files storage for the computers"* Paragraph [0031])

While the combined references of Muttik and Edwards teach virus checkers, the references do not explicitly teach where the virus checkers are separate from the file server.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have the virus checkers separate from the file server.

Making the virus checkers separable is considered an obvious step because the results yielded would yield predictable results. Motivation for doing so is to allow remote virus checks.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HARRIS C. WANG whose telephone number is (571)270-1462. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KRISTINE KINCAID can be reached on (571) 272-4063. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HCW/

Patent Examiner, AU 2139

/Gilberto Barron Jr/

Supervisory Patent Examiner, Art Unit 2132